

## SEQUENCE LISTING

<110> Hoechst Marion Roussel

<120> Novel monomer protein with bone morphogenetic activity  
and medicinal agent containing the same for preventing  
and treating diseases of cartilage and bone.

<130> JH98K008 PCT SEQUENCES IN ENGLISH

<140>

<141>

<150> 10-141379

<151> 1998-05-22

<160> 4

<170> PatentIn Ver. 2.1

<210> 1

<211> 357

<212> DNA

<213> HUMAN

<220>

<221> CDS

<222> (1)..(357)

<223> Relevant amino acid residues in SEQ ID NO 1 from 1  
to 82 and from 84 to 119 in WO 95/04819.

Note : aminoacid residue 83 is alanine  
instead of cysteine.

<300>

<301> HOTTEN, Gertrud  
NEIDHARDT, Helge  
PAULISTA, Michael

<302> New growth/differentiation factor of the tgfbeta familie.

<310> WO 95/04819

<311> 1995-02-16

<400> 1

cca cta gca act cgt cag ggc aag cga ccc agc aag aac ctt aag gct 48  
Pro Leu Ala Thr Arg Gln Gly Lys Arg Pro Ser Lys Asn Leu Lys Ala  
1 5 10 15

cgc tgc agt cgg aag gca ctg cat gtc aac ttc aag gac atg ggc tgg 96  
Arg Cys Ser Arg Lys Ala Leu His Val Asn Phe Lys Asp Met Gly Trp  
20 25 30

gac gac tgg atc atc gca ccc ctt gag tac gag gct ttc cac tgc gag 144  
Asp Asp Trp Ile Ile Ala Pro Leu Glu Tyr Glu Ala Phe His Cys Glu  
35 40 45

ggg ctg tgc gag ttc cca ttg cgc tcc cac ctg gag ccc acg aat cat 192  
Gly Leu Cys Glu Phe Pro Leu Arg Ser His Leu Glu Pro Thr Asn His  
50 55 60

gca gtc atc cag acc ctg atg aac tcc atg gac ccc gag tcc aca cca 240  
Ala Val Ile Gln Thr Leu Met Asn Ser Met Asp Pro Glu Ser Thr Pro  
65 70 75 80

ccc acc gcc tgt gtg ccc acg cga ctg agt ccc atc agc atc ctc ttc 288  
Pro Thr Ala Cys Val Pro Thr Arg Leu Ser Pro Ile Ser Ile Leu Phe  
85 90 95

att gac tct gcc aac aac gtg gtg tat aag cag tat gag gac atg gtc 336  
Ile Asp Ser Ala Asn Asn Val Val Tyr Lys Gln Tyr Glu Asp Met Val  
100 105 110

gtg gag tcg tgt ggc tgt agg 357  
Val Glu Ser Cys Gly Cys Arg  
115

&lt;210&gt; 2

&lt;211&gt; 119

&lt;212&gt; PRT

&lt;213&gt; HUMAN

&lt;400&gt; 2

Pro Leu Ala Thr Arg Gln Gly Lys Arg Pro Ser Lys Asn Leu Lys Ala

1

5

10

15

Arg Cys Ser Arg Lys Ala Leu His Val Asn Phe Lys Asp Met Gly Trp

20

25

30

Asp Asp Trp Ile Ile Ala Pro Leu Glu Tyr Glu Ala Phe His Cys Glu

35

40

45

Gly Leu Cys Glu Phe Pro Leu Arg Ser His Leu Glu Pro Thr Asn His

50

55

60

Ala Val Ile Gln Thr Leu Met Asn Ser Met Asp Pro Glu Ser Thr Pro

65

70

75

80

Pro Thr Ala Cys Val Pro Thr Arg Leu Ser Pro Ile Ser Ile Leu Phe

85

90

95

Ile Asp Ser Ala Asn Asn Val Val Tyr Lys Gln Tyr Glu Asp Met Val

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105

110

Val Glu Ser Cys Gly Cys Arg

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&lt;210&gt; 3

&lt;211&gt; 39

&lt;212&gt; DNA

&lt;213&gt; HUMAN

<220>

<221> misc\_feature

<222> (1)..(39)

<223> Sense PCR primer for mutation introducing.

<400> 3

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39

<210> 4

<211> 37

<212> DNA

<213> HUMAN

<220>

<221> misc\_feature

<222> Complement((1)..(37))

<223> Reverse PCR primer for mutation introducing.

<400> 4

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37